

# Signal Processing for Communications and Navigation (SPCOMNAV)

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José A. López-Salcedo, Gonzalo Seco-Granados

Signal Processing for Communications and Navigation (SPCOMNAV)

Department of Telecommunication and Systems Engineering

Universitat Autònoma de Barcelona

<http://spcomnav.uab.es>

## Facts and figures

- Research group created in 2006 at the UAB school of engineering, to boost research and teaching in signal processing by hiring individuals from other institutions (ESA and UPC).
- Currently, one of the **leading** academic research groups working in signal processing for terrestrial- and **satellite-based positioning in Europe**.
- Initially formed by 2 members, the group **has grown tenfold** in the recent years, reaching **20 members**:
  - 3 Professors
  - **17 members (projects-funded)**
    - 6 Postdoctoral researchers      2 Predoctoral researchers
    - 2 R&D engineers                      2 MSc students                      5 BSc students

## Capacities and contributions

- Capacities:
  - \_Prototyping of signal processing algorithms
  - \_Laboratory proofs of concept
  - \_Generation, processing and reception of signals
  - \_Performance evaluation
- Actively involved in activities funded by the European Space Agency (**ESA**), the European Commission (**EC**) and the European Union Agency for the Space Programme (**EUSPA**).
  - >**7 M€** awarded in R&D contracts
  - >500 publications
  - >50 research projects
  - 15 PhD defended theses
- Contributing to most of the European Space programmes in Navigation:
  - \_Galileo
  - \_EGNOS v3
  - \_TDE
  - \_FutureNav LEO-PNT
  - \_Moonlight
  - \_NAVISP
- Part of the Institut d'Estudis Espacials de Catalunya (IEEC), leading the research activities in satellite-based Navigation.



## Ongoing activities

- Currently, working together with **all major European companies** in **most of the major Space programmes** in Navigation:



- **FutureNav**  
LEO-PNT



- **Moonlight**



- Unified GNSS  
and 5G/6G  
user terminal



- **EGNOS** v3 **indra**

- Evolution of Galileo  
Service Center **indra**

- Hybrid GNSS, 5G  
and LEO-SOP user  
terminal **gmv**



- **Galileo** OSNMA **gmv**  
definition

- **Galileo** SAS **gmv**  
definition



## Desired next steps

- Consolidate our participation in the key European programmes.
- Maintain and even strengthen our cooperation with the Spanish industry and explore new mechanisms of collaboration.
- Possibility to generate knowledge and keep the competitiveness taking advantage of the NAVISP programme.
- Access to flexible national funding that may allow us to develop basic and applied research, early prototypes and proofs of concept.
- Support and reduction of barriers for the participation in Horizon Europe projects.